

REMARKS

Please reconsider the application in view of the following remarks.

The first embodiment of the present invention (independent claim 1) and the second embodiment of the present invention (independent claim 13) allow the operator to perform efficient operation and control. In the first and second embodiments, frequency under the state related to the construction machine is calculated and the calculated frequency is compared with the setting target value for the frequency. Then, according to the comparison result, message is output for the effective operational performance.

Specifically, in the first embodiment of the present invention, frequency distribution of the prescribed state value for the operational state of the construction machine is calculated. In particular, in a prescribed period, periodically, prescribed state value for the operational state of the construction machine is detected. Based on the detection results of each sort of the prescribed state value, frequency distribution of the prescribed state value in a prescribed period is calculated. The frequency distribution is compared with the setting target value for the frequency distribution. Then, according to the comparison result, message is output so as to enhance the operation and control efficiency.

In the second embodiment of the present invention, frequency of workless state is calculated. The calculated frequency is compared with the setting target value for the frequency in the workless state. Then, according to the comparison results, message is output so as to enhance the efficiency of operation and control.

By way of the technical features recited in the claimed invention, the operator can perform efficient operation and control and these technical features are not disclosed at all in any of the cited references as discussed below of this paper.

Claim Rejections - 35 U.S.C. §102

The Examiner has rejected claims 1-3, and 16 under 35 U.S.C. 102(b) as being anticipated by **Takeuchi** (US 2003/0020342). Applicants respectfully traverse this rejection.

Independent Claims 1 and 16

Claim 1 is drawn to at least ... *a control part configured for calculating the frequency distribution of said prescribed state value detected by said part configured for detecting, comparing said frequency distribution thus calculated with said target value set by said part configured for setting, and outputting a previously prepared message in accordance with the comparison result.* Claim 16 is drawn to method claim having similar subject matter as above.

For example, a control part (35, Fig. 3) configured for calculating the frequency distribution (E2, Fig. 4) of said prescribed state value detected (**Engine Speed 31, Hydraulic Oil Pressure 32, Fuel Injection Amount 33, Fig. 3**) by said part configured for detecting (31, 32, 33, Fig. 3), comparing said frequency distribution (E2, Fig. 4) thus calculated with said target value (E1, Fig. 4) set by said part configured for setting (36, Fig. 3), and outputting a previously prepared message (Fig. 5, S104 to S113), in accordance with the comparison result.

On page 4 of the Final Office Action, the Office Alleges that Takeuchi discloses a control part configured for calculating the frequency distribution of said prescribed state value detected by said detecting means, comparing said frequency distribution thus calculated with said target value set by said setting means (36), and outputting a previously prepared message in accordance with the comparison result [0010, 0013, 0115, 0122].

However, Applicants submit that the Office has erred substantively as to the factual findings for anticipation rejection based on the teachings of Takeuchi.

First, in Fig. 21, Takeuchi merely shows the relationship between vehicle speed and the reference comparison frequency. That is, with the increase in speed, the reference comparison frequency also increases.

More specifically, as illustrated in Fig. 22, Takeuchi teaches, in FIG. 22, phases of the reference comparison signal and the detection signal are compared in the phase comparison circuit, and, when there is a phase difference on the side of increasing the motor speed, the phase difference signal (UP) is supplied to the drive control throughout the period such phase difference exists, and when the motor speed exceeds the designated speed during the stable acceleration period, the phase difference signal (DOWN) is supplied to the braking control and the motor speed is brake-controlled to become the designated speed.

In other words, the phase comparison circuit in Takeuchi compares the phase of the reference comparison signal and the phase of the detection signal and outputs the comparison result to the rotation control circuit so that the rotation control circuit can control the speed of the actuator to conform with the speed designation [target value] based on the phase comparison result.

In contrast, in the claimed invention for example, the control section compares the previously determined target value (E1) with the detected and calculated frequency distribution (E2), and if the frequency distribution (E2) exceeds the target value (E1), then the construction machine is judged to be operating inefficiently, and a message is displayed on the monitor screen prompting the operator to control the machine in such a manner that the frequency distribution (E2) comes within the target value (E1). The target value (E1) is the upper limit of the range within which it is inferred that the machine is operating efficiently, and the range equal to and below this target value (E1) is a target value range in which it is provisionally inferred that the machine is operating efficiently (see Figs. 4, 6 and 8).

In view of the foregoing, Applicants submit that Takeuchi does not disclose at least *a control part configured for calculating the frequency distribution of said prescribed state value detected by said part configured for detecting, comparing said frequency distribution thus*

calculated with said target value set by said part configured for setting, and outputting a previously prepared message in accordance with the comparison result.

As noted above, in order to anticipate an invention under 35 U.S.C. §102, the prior art reference must not only disclose all elements/steps of the claim within four corners of the document, but must also disclose those elements/steps arranged as in the claim.

Since Takeuchi does not disclose all elements of claims 1 and 16, Applicants submit that that the rejection of claims 1-3, and 16 under 35 U.S.C. 102 is improper and respectfully request that it be withdrawn.

Claim Rejections - 35 U.S.C. §102

The Examiner has rejected claims 13, 14 and 17 under 35 U.S.C. 102(b) as being anticipated by **Suzuki** (5,077,973 A). Applicants respectfully traverse this rejection.

First, Applicants submit that the Examiner has not made the *prima facie* case for anticipation because the Examiner merely cites column 2 and 3 of Suzuki without showing how this reference discloses each and every element of the claimed invention, arranged as in the claim.

Second, Suzuki is completely different from the claimed invention. More specifically, Suzuki teaches when a power supply source is turned on, **the CPU 11** executes a processing of setting the operation mode to "excavation", ... the soft mode to "OFF", the running speed mode

to "LO" etc. and after completion of the **processings of initial setting, the CPU 11** determines whether the respective push button switches $4_1, 4_2, \dots, 4_{11}$ are shifted to ON or not (steps 101, 102, ..., 111, Fig. 6). When it is determined at the step 101 that the switch 4_1 is shifted to ON, the routine goes to the step 102 after the CPU 11 executes a series of processings in the operation mode shown in FIG. 7 (see at least column 3, line 45 to column 4, line 68).

However, Suzuki does not disclose any feature which can be construed as same or similar to the control section in the claimed invention that compares the previously determined target value with the detected and calculated frequency of the workless state, and if the frequency of the workless state exceeds the target value, then the construction machine is judged to be operating inefficiently (long period of idling), and a message is displayed on the monitor screen prompting the operator to control the machine in such a manner that the frequency of the workless state comes within the target value. The target value is the upper limit of the range within which it is inferred that the machine is operating efficiently, and the range equal to and below this target value is a target value range in which it is provisionally inferred that the machine is operating efficiently.

In view of the foregoing, Applicants submit that Suzuki also does not disclose at least *a control part configured for calculating a frequency of said workless state detected by said part configured for detecting, comparing the frequency of said workless state thus calculated with*

said target value set by said part configured for setting, and outputting a previously prepared message in accordance with the comparison result as recited in claims 13 and 17.

Therefore, Applicants submit that the anticipation rejection based on Suzuki is improper and respectfully request that it be withdrawn.

Claim Rejections - 35 U.S.C. §103

Claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over **Takeuchi** (US 2003/0020342 Al), further in view of **Eguchi** (US 6,338,694 Bl).

Claim 5 was rejected under 35 U.S.C. 103(a) as being unpatentable over **Takeuchi** (US 2003/0020342 Al), further in view of **Amisano** (US 2002/0016232 Al).

Claim 7 was rejected under 35 U.S.C. 103(a) as being unpatentable over **Takeuchi** (US 2003/0020342 Al), further in view of **Ibaraki** (US 5,722,911 A).

Claims 8 and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over **Takeuchi** (US 2003/0020342 Al), further in view of **Furuta** (US 2002/0150267 Al).

Claim 10 was rejected under 35 U.S.C. 103(a) as being unpatentable over **Takeuchi** (US 2003/0020342 Al), further in view of **Toyooka** (US 5,479,778 A).

Claims 11 and 12 were rejected under 35 U.S.C. 103(a) as being unpatentable over **Takeuchi** (US 2003/0020342 A1), further in view of **Kinugawa** (US 2003/0193406 A1).

Claim 15 was rejected under 35 U.S.C. 103(a) as being unpatentable over **Suzuki** (5,077,973 A), further in view of **Kinugawa** (US 2003/0193406 A1).

Each of these rejections is respectfully traversed.

Claims 4-5 and 7-12 depend from independent claim 1 and claim 15 depend from independent claim 13. As such, these dependent claims are also patentable at least because, by virtue of their dependency, they incorporate by reference the distinguishing features of independent claims.

Conclusion

The Claims have been shown to be allowable over the prior art. Applicants believe that this paper is responsive to each and every ground of rejection cited in the Office Action dated October 5, 2009, and respectfully request favorable action in this application. The Examiner is invited to telephone the undersigned, applicants' attorney of record, to facilitate advancement of the present application.

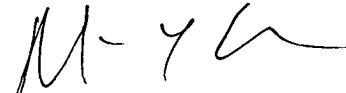
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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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